

**REMARKS**

It is respectfully requested that the Office enter the above claim amendments and consider the following remarks before examining the RCE filed concurrently herewith. Claims 1-22 are currently pending in this application.

**35 U.S.C. § 102 Rejections**

In the Office action dated February 10, 2006, which was made final, the Examiner rejected claims 1-22 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 6,393,316 to Gillberg et al. Applicant respectfully traverses this rejection.

Applicant's claimed invention as recited in independent claims 1, 19 and 22 is directed toward a method and corresponding apparatus for improving classification of rhythms produced by a beating heart. For example, independent claim 1 recites a method comprised in part by storing intervals corresponding to a sequence of complexes, analyzing the stored intervals and excluding one or more of the morphology scores from a rhythm classification based upon the analyzed intervals. (Underlining added for emphasis only). Applicant respectfully submits that Gillberg et al. do not disclose or suggest the recited claim elements.

The Examiner suggests that the rhythm classification system disclosed by Gillberg et al. anticipates excluding one or more of the morphology scores from a rhythm classification as recited in Applicant's claimed invention because both operate as morphology discrimination techniques to classify complexes created as a result of certain conditions. Applicant respectfully disagrees.

The mere fact that Gillberg et al. utilize morphology discrimination to classify a detected rhythm does not in any way suggest excluding a particular morphology

score for a corresponding complex from that classification based upon the interval of that corresponding complex as recited Applicant's claimed invention. Gillberg et al. does not in fact disclose or suggest including or excluding particular morphology scores from the classification.

Rather, Gillberg et al. sort detected intervals into corresponding rate ranges and utilize counters associated with each rate range to track the numbers of intervals falling within the defined ranges. In operation the counter for a corresponding rate range is incremented when an R-R interval falling within the defined rate range is detected. Gillberg et al/ then use the counts to signal detection of an associated arrhythmia when they individually or in combination reach a predetermined value. (Gillberg et al., col. 8, lines 9-43).

Further, in Gillberg et al. if the rate based analysis detects a tachycardia a morphology analysis subroutine determines whether the morphology of at least a predetermined number of the preceding series of R waves is indicative of a ventricular tachycardia. If so, the morphology criterion is met and an anti-tachycardia therapy is selected and delivered. (Gillberg et al., FIG. 3A, col. 9, lines 55-65). Thus, in Gillberg et al. the morphology analysis is simply used to validate the rhythm classification derived by analyzing the R-R intervals prior to delivery of therapy.

Gillberg et al. do not however, disclose or in any way suggest excluding one or more of the morphology scores that correspond to the sequence of complexes based upon the analyzed intervals of those complexes as recited in claims 1, 19 and 22 of the present application.

Accordingly, Applicant respectfully submits that claims 1, 19 and 22 are novel and unobvious over Gillberg et al. and are therefore allowable. Applicant further

submits that claims 2-10 and claims 20-21 that depend from claims 1 and 19 are allowable as are claims 1 and 19 and for additional limitations recited therein.

Further, independent claims 11, 15 and 18 recited similar limitations. For example, independent claim 11 recites a method comprised in part by comparing each of the complexes in the sequence with a template to generate a morphology score for each complex ... determining whether a selected one of the stored intervals is shorter than a predetermined length and invalidating a morphology score for a complex corresponding to the selected interval if the length of the selected interval is shorter than the predetermined length. The recited method then diagnoses the type of tachycardia based on the remaining valid morphology scores. Applicant respectfully submits that Gillberg et al. do not disclose or suggest the recited claim elements.

Rather, as argued above with respect to claims 1, 19 and 22, Gillberg et al. does not disclose or in anyway suggest excluding morphology scores from a rhythm classification based upon the corresponding interval as set forth in Applicant's claimed invention. The mere fact that Gillberg et al. disclose the use of both rate based analysis and morphology discrimination alone does not anticipate excluding morphology scores from the morphology analysis if the interval of the corresponding complex is shorter than a predetermined length as recited in Applicant's claimed invention.

Rather, Gillber et al. utilize counts of intervals falling within particular rate ranges which are then used to signal detection of an associated arrhythmia when they individually or in combination reach a predetermined value. Gillberg et al. then


use morphology analysis to validate the rate based arrhythmia detection prior to deliver of therapy.

Gillberg et al. do not therefore disclose or suggest determining whether a selected one of the stored intervals is shorter than a predetermined length and invalidating a morphology score for a complex corresponding to the selected interval if the length of the selected interval is shorter than the predetermined length as recited in claims 11, 15 and 18 of the present application. Applicant therefore respectfully submits that claims 11, 15 and 18 are novel and unobvious over Gillberg et al. and are allowable. Applicant further submits that claims 12-14 and claims 16-17 that depend from claims 11 and 15 respectively are allowable as are claims 11 and 15 and for additional limitations recited therein.

Applicant respectfully submits that the present application is in condition for allowance. Pursuant to 37 C.F.R. 1.136(a)(3), Applicant hereby requests and authorizes the U.S. Patent and Trademark Office to (1) treat any concurrent or future reply that requires a petition for extension of time as incorporating a petition for extension of time for the appropriate length of time and (2) charge all required fees, including extension of time fees and fees under 37 C.F.R. 1.16 and 1.17, to Deposit Account No. 22-0265.

Respectfully submitted,

Dated: 7-18-06

  
By: Peter A. Nichols  
Registration No. 47,822  
Attorney for Applicant(s)

Customer Number: 24473